



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Rev. 09/15/00

Applicants: Jeffrey Davis

Docket No.: DAVIS100

Serial No.: 09/334,208

Examiner: Solak

Filed : June 15, 1999

Art Unit: 3746

For : METHOD AND APPARATUS FOR CONTROLLING A PUMPING UNIT

Commissioner for Patents
Washington, DC 20231

TRANSMITTAL OF APPEAL BRIEF

1. Transmitted herewith in triplicate is the Appeal Brief in this application with respect to the Notice of Appeal filed on July 21, 2001.

2. Status of Applicant

This application is on behalf of

☐ other than a small entity
☒ a small entity

3. Attached is a Fee Transmittal Form.

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TECHNOLOGY CENTER R3700

Respectfully submitted,

Date: Aug. 29, 2001

Ray G. Wilson
Signature of Attorney

Reg. No. 28.351
Phone (505) 665-3112

Ray G. Wilson
233 Rover Blvd.
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CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

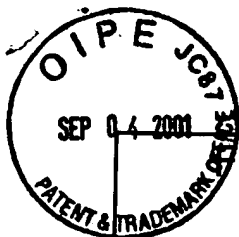
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Ray G. Wilson
Signature
Ray G. Wilson
(type or print name of person certifying)

**EE TRANSMITTAL**
For FY 1999

Patent fees are subject to annual revision
Small Entity payments *must* be supported by a small entity statement,
otherwise large entity fees must be paid. See Forms PTO/SB/09-12

TOTAL AMOUNT OF PAYMENT \$ **155****Complete if Known**

Application Number: 09/334,208

Filing Date: June 15, 1999

First Named Inventor: Jeffrey Davis

Examiner Name: Solak

Group/Art Unit: 3746

Attorney Docket No.: Davis100

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METHOD OF PAYMENT (check one)

1. ☐ The commissioner is hereby authorized to charge indicated fees and credit any over payments to:

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- ☐ Charge Any Additional Fee Required Under
37 C.F.R. 1.16 and 1.17

2. ☒ Payment Enclosed:

☒ Check ☐ Money Order ☐ Other**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Small Entity

Fee Code	Fee \$	Fee Code	Fee \$	Fee Description	Fee Paid
101	710	201	3355	Utility filing fee	355
106	320	206	160	Design filing fee	
107	490	207	245	Plant filing fee	
108	710	208	355	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) \$**2. EXTRA CLAIM FEES**

Total Claims	Extra Claims	ee from Below	Fee Paid
13 -20**	= 0	X	= 0
Independent Claims	2 -3**	= 0	X = 0

Multiple Dependent =

** or number previously paid, if greater; For Reissues, see below

Large Entity Small Entity

Fee Code	Fee \$	Fee Code	Fee \$	Fee Description
103	18	203	9	Claims in excess of 20
102	80	202	40	Independent claims in excess of 3
104	270	204	135	Multiple dependent claim, if not paid
109	80	209	40	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) \$**FEE CALCULATION** (continued)**3. ADDITIONAL FEES**

Large Entity/Small Entity

Fee Code	Fee \$	Fee Code	Fee \$	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	390	216	195	Extension for reply within second month	
117	890	217	445	Extension for reply within third month	
118	1,390	218	695	Extension for reply within fourth month	
128	1,890	228	945	Extension for reply within fifth month	
119	310	219	155	Notice of Appeal	
120	310	220	155	Filing a brief in support of an appeal	155
121	270	221	135	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,240	241	620	Petition to revive - unintentional	
142	1,240	242	620	Utility issue fee (or reissue)	
143	440	243	220	Design issue fee	
144	600	244	300	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	180	126	180	Submission of Information Disclosure Stmt.	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	710	246	355	Filing a submission after final rejection (37 CFR 1.129 (a))	
149	710	249	355	For each additional invention to be examined (37 CFR 1.129(b))	

Other fee (specify) _____

Other fee (specify) _____

SUBTOTAL (3) \$ 155

*Reduced by Basic Filing Fee Paid

SUBMITTED BY

Printed Name: Ray G. Wilson

Signature:

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Reg. Number 28,351

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Rev. 06/23/00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants: Jeffrey Davis

Docket No.: DAVIS100

Serial No.: 09/334,208

Examiner: Solak

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For : METHOD AND APPARATUS FOR CONTROLLING A PUMPING UNIT

APPEAL BRIEF

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Filed : June 15, 1999

Art Unit: 3746

For : METHOD AND APPARATUS FOR CONTROLLING A PUMPING UNIT

STATEMENT OF THE REAL PARTY IN INTEREST

Appellant, Jeffrey Davis, is the owner of all right title and interest in the subject patent application.

TABLE OF AUTHORITIES

In re Mills, 16 USPQ 2nd 1430 (Fed. Cir. 1990)

Ex parte Levengood, 28 USPQ 2nd 1300, 1302 (Bd. Pat. App. & Inter. 1993)

MPEP 2143.01

MPEP 2144

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STATUS OF ALL CLAIMS AND AMENDMENTS

This is an appeal from the final rejection (Examiner's Action dated April 27, 2001) of Claims 1-13 currently pending in the subject patent application. Claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills in view of Long, Jr. Claims 2 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr., and further in view of Turner et al. Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr., in further view of Gallaway. Claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over

Mills, in view of Long, Jr. and Gallaway, in further view of Turner et al. Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr. and Turner et al., in further view of Gallaway. Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr., in further view of Kuehn III et al. Claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr. and Kuehn III et al., in further view of Gallaway. Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr. Claim 10 is rejected under 35 U.S.C. §103(a) as unpatentable over Mills, in view of Long, Jr., in further view of Gallaway. Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr. and Gallaway, in further view of Dye. Claims 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mills, in view of Long, Jr., in further view of Kuehn III et al.

SUMMARY OF THE INVENTION

A control system is provided for a pump assembly associated with a pumping well to reduce the pumping duty cycle of the pump assembly while permitting an engine driving the pump assembly to run continuously. A pneumatic clutch connects the engine to the pump assembly through a pneumatically inflatable bladder so that the bladder can be inflated on the occurrence of selected events to drive the pump assembly to remove liquid from the well. The bladder is inflated with a pressurized gas. In an advantageous embodiment the pressurized gas is natural gas from the well site so that the unit can be run at remote locations without a need to furnish external fuel or other power supplies.

ISSUES PRESENTED FOR REVIEW

1. Does Long, Jr. properly show or suggest the combination with Mills to make Claims 1 - 13 obvious under 35 U.S.C. §103(a).
2. Does Gallaway properly show or suggest the combination with Mills and Long, Jr. to make Claims 3, 4, 6, 8, 10, and 11 obvious under 35 U.S.C. §103(a).

GROUPING OF THE CLAIMS

Claims 1-13 should be considered together for the rejection under 35 U.S.C. §103(a) as unpatentable over Mills, in view of Long, Jr.

Claims 3, 4, 6, 8, 10, and 11 should be considered together for the rejection under 35 U.S.C. §103(a) as unpatentable over Mills, in view of Long, Jr., in further view of Gallaway.

ARGUMENT

Applicant has traversed the rejection of independent Claims 1-13 as unpatentable over Mills in view of Long et al. The Examiner has stated that Mills teaches most of the limitations of the claim, but it does not teach a pneumatic clutch, and further states that Long, Jr. et al. teach an air clutch. The rejection concludes that it would be obvious to select the clutch taught by Long, Jr. because Long, Jr. et al. further teach that the clutch has an advantageously increased life.

It is applicant's position that a person of ordinary skill in the pumping apparatus art would not select a pneumatic clutch based on the teachings of either Mills or Long, Jr. et al. First, the sole mention in Mills about a clutch is the following sentence at Col. 7, line 6-9, referenced by the action:

The apparatus preferably is provided with 12 volts at S so the battery of an internal combustion engine can be used as a power source with the contacts of solenoids 42 and 43 being utilized to disengage a clutch means or to interrupt the ignition circuitry of the engine.

There is no suggestion of any problem with the life of a clutch or as to the type of clutch that might be selected.

Long, Jr. does state at Col. 1, lines 401-44 that "positive disconnection will typically improve the life of the clutch inasmuch as reduced scrubbing and sliding of the clutch elements against one another during idle and thus reduce both the generation of frictional heat and consequently overall operating temperatures." But the pneumatic operation of the clutch is taught to be conventional (Col. 4, lines 7-9: "The mounting assemblies 76 cooperate with the air bladder 64 to provide bi-directional axial

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Claims 3, 4, 6, 8, 10, and 11 should be considered together for the rejection under 35 U.S.C. §103(a) as unpatentable over Mills, in view of Long, Jr., in further view of Galloway.

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ARGUMENT

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translation of the ribbed pressure plate 70 in a conventional manner”). The improved reduction in scrubbing and sliding of the clutch elements is provided by the array of helical splines, not the pneumatic bladder: “The arrays of helical splines 90 and 94 and 108 and 110 now cooperate to fully separate and substantially eliminate drag by axially displacing the first friction disk 92 and the movable clutch plate 106 in response to small inertial and frictional forces.” (Col. 5, lines 26-30).

To be a proper suggestion for a pneumatic clutch to combine with Mills on the basis stated in the rejection, Long, Jr. et al. would have to first show some advantage from the use of a pneumatic clutch. But there is no suggestion by Long, Jr. et al. that the pneumatic aspect of the clutch provides the benefits noted by Long, Jr. et al. That is, given the teachings of Mills, one might look to Long, Jr. et al. for its benefits of long life only after a pneumatic clutch had been selected for some reason not shown or suggested by either Mills or Long, Jr. et al.

It is clearly proper to combine references where one of the references provides some motivation to do so (MPEP 2143.01 and the references cited therein). However, Mills provides only a generic reference to a clutch and Long, Jr. et al. only teach a generic benefit, longer life, for the pneumatic clutch described therein. A generic benefit does not provide any proper motivation for selecting one reference over a myriad of other references with a similar benefit. Indeed, a simple patent search in the data base of the USPTO of U.S. patents issued since 1976 of the term “improved clutch” provides 528 such patents. Appendix B is a partial listing (150 patents) that shows friction clutches, electromagnetic clutches, torque clutches, and the like. What is the motivation for appellant to select the improved clutch shown by Long, Jr. et al.? None is provided by Mills, Long, et al., or the Examiner, other than a generic motivation.

It is certainly true that the motivation of appellant for selecting a pneumatic clutch does not have to be the same as the motivation suggested by the Examiner for selecting the pneumatic clutch of Long, Jr. et al. (MPE9 2144, citing *Ex parte Levengood*, 28 USPQ 2d 1300, 1302 (Bd. Pat. App. & Inter. 1993)). But the same

motivation suggested by the Examiner would apply to the 528 "improved clutches" described in the 528 issued U.S. patents.

Thus, neither of the references shows or suggests that a pneumatic clutch has any beneficial application to a well pumping assembly. The only suggestion for combining a pneumatic clutch with a well pumping assembly is applicant's specification, but references may not be combined based on applicant's suggestion. This is impermissible hindsight.

Claims 3, 4, 6, 8, 10, and 11 all recite a limitation directed to the use of natural gas from a gas well to inflate the bladder to connect the engine to the pump assembly. The Examiner comments that Gallaway discloses a method using pressurized gas from a well to activate a pump and that this method was advantageously cost effective and it would have been obvious to use gas from a well in appellant's invention for cost effectiveness. Gallaway uses gas from a well to power an air motor, which, in turn, drives a pump.

It is appellant's position that the Examiner has provided no viable motive from Gallaway to provide natural gas from a well site as a pressurizing medium for a pneumatic clutch. All of the limitation in the claims must be considered (MPEP 2143.03). Appellant uses natural gas from the well site to actuate a clutch. Gallaway teaches the use of natural gas only as a medium to power an engine. There is nothing in Gallaway or any of the other references to suggest the use of natural gas to actuate a clutch for any purpose. The fact that natural gas could be used to actuate a clutch does not make the combination obvious in the absence of some suggestion to do so (*In re Mills*, 16 USPQ 2nd1430 (Fed. Cir. 1990)).

CONCLUSION

Appellant believes that the Examiner has not adequately supported the stated reasons for the rejections of currently pending Claims 1-13. Appellant has clearly described and claimed an apparatus which functions in a different and unobvious manner from that of the references cited alone and in combination.

Respectfully submitted,

Date: Aug. 29, 2001

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Signature of Attorney

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Los Alamos, New Mexico 87544

APPENDIX A - CLAIMS ON APPEAL

1. A method for reducing the pumping duty cycle of a pump assembly associated with a pumping well comprising the steps of:

5 continuously running an engine;

connecting the engine with a pump assembly through a clutch assembly having a pneumatically inflatable bladder for connecting a hub of the clutch with a clutch plate to transmit rotary motion from the engine to the pump assembly;

10 determining a selected event to actuate the clutch to connect the engine with the pump assembly; and

providing a pressurized gas on the occurrence of the selected event to inflate the bladder to connect the pump assembly with the engine to remove liquid from the gas well to maintain an inflow of hydrocarbons from a producing formation.

2. A method according to Claim 1, wherein the selected event is selected from the events comprising a periodic time interval and a liquid level in the gas well.

3. A method according to Claim 1, where the pressurized gas is supplied from natural gas exiting the gas well.

4. A method according to Claim 3, wherein the selected event is selected from the events comprising a periodic time interval and a liquid level in the gas well.

5. A method according to Claim 1, where the selected event is determined by monitoring the liquid level in the gas well with time and determining a pumping cycle effective to maintain an inflow of hydrocarbons from the producing formation.

6. A method according to Claim 5, where the pressurized gas is supplied from natural gas exiting the gas well.

7. A method according to Claim 1, where the selected event is determined by directly monitoring the level of liquid in the well and actuating the pump assembly to maintain the liquid level between selected elevations to maintain an inflow of hydrocarbons from the producing formation while reducing the pump assembly duty cycle.

8. A method according to Claim 7, where the pressurized gas is supplied from natural gas exiting the well.

9. A pumping assembly for maintaining hydrocarbon production from a well, comprising:

a pumping assembly for pumping liquid from the gas well;

an engine for driving the pumping assembly;

a pneumatic clutch assembly having a pneumatically inflatable bladder for connecting a hub of the clutch plate to transmit rotary motion from the engine to the pump assembly; and

a control unit for inflating the bladder when needed to pump liquid from the gas well to maintain hydrocarbon production from the well while enabling the engine to run continuously.

10. A pumping assembly according to Claim 9, wherein the control unit connects gas from the well to the pneumatic clutch for inflating the bladder.

11. A pumping assembly according to Claim 10, wherein the control unit is a timer for periodically actuating the clutch.

12. A pumping assembly according to Claim 9, further including means for monitoring a liquid level in the gas well and outputting a signal indicative of the liquid level.

13. A pumping assembly according to Claim 12, wherein the control unit receives the signal indicative of the liquid level and actuates the clutch to maintain the liquid level below a maximum height to maintain hydrocarbon production from the well.

APPENDIX B
SEARCH RESULTS

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Refine Search

"improved clutch"

- 1 [6,220,415](#)  [Hold down fastener](#)
- 2 [6,208,053](#)  [Adjustable torque hysteresis clutch](#)
- 3 [6,202,818](#)  [Friction clutch with compensation for wear](#)
- 4 [6,186,297](#)  [Controllable torque transmission device](#)
- 5 [6,183,368](#)  [One-way over-running flex coupling](#)
- 6 [6,138,809](#)  [Insulated electromagnetic coil for electromagnetic clutch](#)
- 7 [6,138,806](#)  [Clutch disk with varied friction values](#)
- 8 [6,135,890](#)  [Torsional vibration damper](#)
- 9 [6,128,984](#)  [Micro-torque limiting, shock limiting tool and subassembly](#)
- 10 [6,095,937](#)  [Torque-responsive clutch with confined rollers](#)
- 11 [6,088,933](#)  [Drive rod and clutch disk for a paint brush and roller drying tool](#)
- 12 [6,085,883](#)  [Friction clutch](#)
- 13 [6,085,882](#)  [Friction clutch](#)
- 14 [6,076,429](#)  [Clutch for a differential](#)
- 15 [6,071,211](#)  [Idle drive torque control for automated vehicle master clutch](#)
- 16 [6,062,358](#)  [Hydrokinetic torque converter and lockup clutch therefor](#)
- 17 [6,061,619](#)  [Electronic clutch management](#)
- 18 [6,050,053](#)  [Clutch control for a clutch-actuated bag closing head](#)
- 19 [6,029,787](#)  [Self-adjusting friction clutch](#)
- 20 [6,022,295](#)  [Touch point identification for vehicle master clutch](#)
- 21 [6,021,879](#)  [Rotating clutch balance apparatus](#)
- 22 [6,016,899](#)  [Clutch disk with flexible bearing](#)

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Results of Search in All Years db for:

"improved clutch": 528 patents.

Hits 51 through 100 out of 528

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PAT. NO.	Title
51	5,809,924  Clutch controlled steering device
52	5,803,224  Friction clutch
53	5,791,576  Clutch mechanism for a double bearing type reel for fishing
54	5,782,327  Hydrokinetic torque converter and lockup clutch therefor
55	5,782,175  Knotter clutch control for square balers
56	5,779,388  Printed circuit board retainer
57	5,746,381  Fishing reel with clutch mechanism utilizing an engaging protrusion and engaging recesses
58	5,738,189  Adjustment mechanism for disc brake, with improved over-torque clutch
59	5,738,177  Production assembly tool
60	5,737,944  Washing machine with improved drive structure for rotatable tub and agitator
61	5,720,374  Backfill pressure control valve for a rotating clutch
62	5,711,407  Torsional vibration damper
63	5,711,192  Indexer with improved clutch
64	5,709,130  Transmission clutch
65	5,701,574  Method of producing a sliding sleeve for the synchronizer means of a change-speed gear
66	5,669,480  Clutch operating apparatus
67	5,667,048  Clutch disengaging device

- 68 [5,664,656](#)  [Centrifugal clutch](#)
- 69 [5,655,421](#)  [Micro-torque limiting, shock limiting production tool](#)
- 70 [5,653,323](#)  [Clutch release bearing assembly](#)
- 71 [5,651,277](#)  [Clutch mechanism for automatic washer](#)
- 72 [5,647,569](#)  [Rotating Christmas tree stand](#)
- 73 [5,642,641](#)  [Dome shaped extruded location feature tool for making the location feature and method for locating adjoining plates using the location feature](#)
- 74 [5,640,863](#)  [Clutch mechanism for door lock system](#)
- 75 [5,632,365](#)  [Friction clutch](#)
- 76 [5,630,773](#)  [Method and apparatus for slip mode control of automatic clutch](#)
- 77 [5,628,389](#)  [Friction clutch](#)
- 78 [5,617,168](#)  [Camera with spool positioning mechanism](#)
- 79 [5,609,232](#)  [Electromagnetic clutch with permanent magnet return mechanism](#)
- 80 [5,607,036](#)  [One-way clutch with stretchable spring member](#)
- 81 [5,601,169](#)  [Fluid pressure overload release clutch](#)
- 82 [5,597,334](#)  [Outboard drive transmission system](#)
- 83 [5,588,517](#)  [Clutch operating apparatus](#)
- 84 [5,579,881](#)  [Friction clutch, such as for a motor vehicle, with flat spring characteristic](#)
- 85 [5,579,663](#)  [Clutch cable noise and vibration isolator](#)
- 86 [5,575,364](#)  [Apparatus for transmitting force between rotary driving and driven units](#)
- 87 [5,562,193](#)  [Method and apparatus for installing and adjusting a clutch assembly](#)
- 88 [5,554,002](#)  [Electric fan having two wind shifting modes](#)
- 89 [5,551,548](#)  [Clutch assembly for an off-highway transmission](#)
- 90 [5,538,120](#)  [Clutch bracket retainer for torque sensing clutch mechanisms](#)
- 91 [5,520,274](#)  [Friction clutch](#)
- 92 [5,518,099](#)  [Friction clutch driven plates](#)
- 93 [5,505,676](#)  [Clutch torque control](#)
- 94 [5,493,979](#)  [Independent guide system for upper roller feeder](#)
- 95 [5,489,011](#)  [Vehicle clutch cable self-adjusting mechanism](#)
- 96 [5,486,196](#)  [Apparatus for the closure of wide skin defects by stretching of skin](#)
- 97 [5,480,270](#)  [Clutch for threading attachment](#)
- 98 [5,450,934](#)  [Friction clutch](#)
- 99 [5,448,959](#)  [Belt drive puller mechanism](#)
- 100 [5,437,334](#)  [Edger](#)

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PATENT FULL TEXT AND IMAGE DATABASE



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Results of Search in All Years db for:

"improved clutch": 528 patents.

Hits 101 through 150 out of 528

Prev. 50 Hits

Next 50 Hits

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Refine Search

"improved clutch"

PAT. NO.	Title
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- | | | |
|-----|---------------------------|--|
| 101 | 5,435,797 | Fluid-operated clutch |
| 102 | 5,435,425 | Clutch brake and method for attaching a clutch brake to a shaft |
| 103 | 5,423,405 | Clutch release bearing device |
| 104 | 5,413,202 | Friction generating torque transmitting device |
| 105 | 5,398,089 | Takeup spool drive with clutch mechanism and method of operation |
| 106 | 5,377,799 | Electromagnetic clutch with improved actuation |
| 107 | 5,377,798 | Clutch plate with blocking wall for a viscous fluid clutch |
| 108 | 5,377,797 | Clutch engagement control method in response to transmission shift lever position |
| 109 | 5,377,796 | Apparatus for transmitting force between rotary driving and driven units |
| 110 | 5,366,433 | Safety clutch and its use in capping milk cartons |
| 111 | 5,362,010 | Clutch device for fishing reel |
| 112 | 5,355,986 | Clutch and disc brake friction assembly |
| 113 | 5,352,161 | Capacity control for nested clutch automatic transmission |
| 114 | 5,350,133 | Fishing reel having an improved clutch mechanism |
| 115 | 5,337,874 | Method/system for determining clutch touch point |
| 116 | 5,337,867 | Torque converter having a continuous slip bypass clutch with multiple friction plates |
| 117 | 5,337,827 | Pressure-controlled well tester adapted to be selectively retained in a predetermined operating position |
| 118 | 5,333,812 | Clutch structure for a fishing reel |

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